Golgi Apparatus

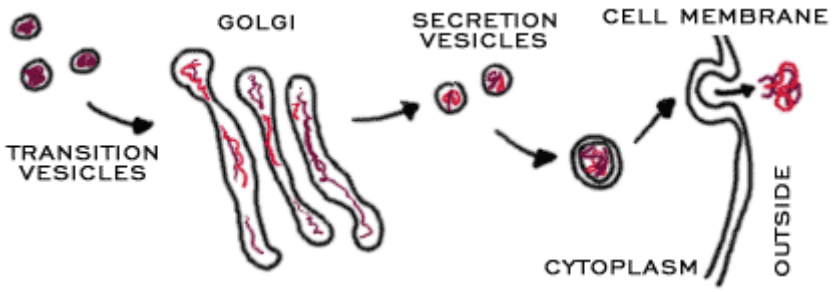
The **Golgi apparatus** or Golgi complex is found in most cells. It is another **packaging organelle** like the endoplasmic reticulum (ER). It was named after Camillo Golgi, an Italian biologist. It is pronounced GOL-JI in the same way you would say squee-gie, as soft a "G" sound. While layers of membranes may look like the rough ER, they have a very different function.

Foundation of Vesicles

The Golgi complex gathers simple molecules and combines them to make molecules that are more complex. It then takes those big molecules, packages them in **vesicles**, and either stores them for later use or sends them out of the cell. It is also the organelle that builds lysosomes (cell digestion machines). Golgi complexes in the plant may also create complex sugars and send them off in secretory vesicles. The vesicles are created in the same way the ER does it. The vesicles are pinched off the membranes and float through the cell.

The Golgi complex is a series of membranes shaped like pancakes. The single membrane is similar to the cell membrane in that it has two layers. The membrane surrounds an area of fluid where the complex molecules (proteins, sugars, enzymes) are stored and changed. Because the Golgi complex absorbs vesicles from the rough ER, you will also find ribosomes in those pancake stacks.

Working with the Rough ER



The Golgi complex works closely with the rough ER. When a protein is made in the ER, something called a **transition vesicle** is made. This vesicle or sac floats through the cytoplasm to the Golgi apparatus and is absorbed. After the Golgi does its work on the molecules inside the sac, a **secretory vesicle** is created and released into the cytoplasm. From there, the vesicle moves to the cell membrane and the molecules are released out of the cell.